CLAIMS

1. A method for tracing source addresses of packets, the method comprising:

identifying at least part of a source address of a packet; and

determining whether the at least part of the source address matches at least one source address recorded within a predetermined time period prior to arrival of the packet.

2. The method according to claim 1, where the at least one source address is recorded in a hierarchical data structure.

3. The method according to claim 1, where a Last Time Seen (LTS) value associated with each of the at least one source address is recorded.

4. The method according to claim 1 further comprising:

routing the packet if the at least part of the source address matches at least one source address recorded within the predetermined time period prior to the arrival of the packet; and

recording an arrival time of the packet.

5. The method according to claim 1 further comprising:

routing the packet with a warning if the at least part of the source address does not match at least one source address recorded within the predetermined time period prior to the arrival of the packet; and

recording the at least part of the source address and an arrival time of the packet.

6. The method according to claim 5, where the warning is recorded in a read-only medium.

7. The method according to claim 1 further comprising issuing a warning and discarding the packet if the at least part of the source address does not match at least one source address recorded within the predetermined time period prior to the arrival of the packet.

8. The method according to claim 7, where the warning is recorded in a read-only medium.

9. The method according to claim 1, where the source address of the packet is an internet protocol (IP) address.

10. At least one signal embodied in at least one carrier wave for transmitting a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing the method as recited in claim 1.

11. At least one processor readable carrier for storing a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing the method as recited in claim 1.

12. A system for tracing source addresses of packets comprising at least one network element, where the at least one network element comprises:

a processor module that identifies at least part of a source address of a packet and determines whether the at least part of the source address matches at least one source address recorded within a predetermined time period prior to arrival of the packet; and

a storage module that stores the at least one source address recorded within a predetermined time period prior to arrival of the packet.

13. The system according to claim 12, where the at least one source address is recorded in a hierarchical data structure.

14. The system according to claim 12, where a Last Time Seen (LTS) value associated with each of the at least one source address is recorded.

15. The system according to claim 12, where the processor module is further adapted to

route the packet if the at least part of the source address matches at least one source address recorded within the predetermined time period prior to the arrival of the packet; and

record an arrival time of the packet.

16. The system according to claim 12, where the processor module is further adapted to

route the packet with a warning if the at least part of the source address does not match at least one source address recorded within the predetermined time period prior to the arrival of the packet; and

record the at least part of the source address and an

arrival time of the packet.

17. The system according to claim 16, where the warning is recorded in a read-only medium.

18. The system according to claim 12, where the processor module is further adapted to issue a warning and discard the packet if the at least part of the source address does not match at least one source address recorded within the predetermined time period prior to the arrival of the packet.

19. The system according to claim 18, where the warning is recorded in a read-only medium.

20. The system according to claim 12, where the source address of the packet is an internet protocol (IP) address.

21. A system for tracing source addresses of packets, the system comprising:

means for identifying at least part of a source address of a packet; and

means for determining whether the at least part of the source address matches at least one source address recorded

within a predetermined time period prior to arrival of the packet.